

9. Wear safety goggles during all operations involving drilling, grinding, the use of a cold chisel or anytime you feel unsure about the safety of your eyes. Safety goggles should also be worn anytime solvent and compressed air is used to clean a part.

10. Keep an approved fire extinguisher (**Figure 1**) nearby. Be sure it is rated for gasoline (Class B) and electrical (Class C) fires.

11. When drying bearings or other rotating parts with compressed air, never allow the air jet to rotate the bearing or part. The air jet is capable of rotating them at speeds far in excess of those for which they were designed. The bearing or rotating part is very likely to disintegrate and cause serious injury and damage. To prevent bearing damage when using compressed air, hold the inner bearing race by hand (**Figure 2**).

SERVICE HINTS

Most of the service procedures covered are straightforward and can be performed by anyone reasonably handy with tools. It is suggested, however, that you consider your own capabilities care-

fully before attempting any operation involving major disassembly of the engine or transmission.

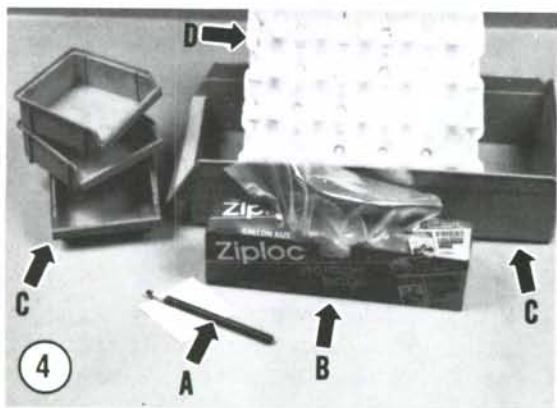
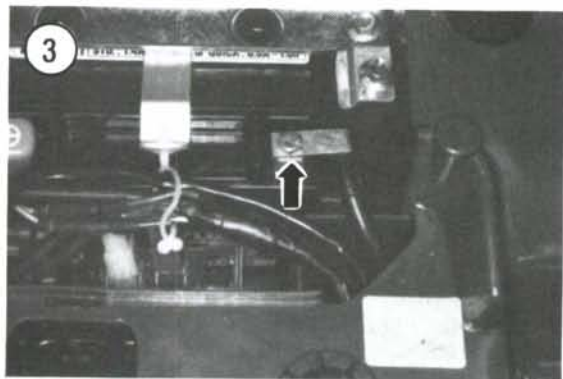
Take your time and do the job right. Do not forget that a newly rebuilt engine must be broken in the same way as a new one. Keep the rpm's within the limits given in your Honda Fourtrax owner's manual.

1. "Front," as used in this manual, refers to the front of the vehicle; the front of any component is the end closest to the front of the vehicle. The "left-" and "right-hand" sides refer to the position of the parts as viewed by a rider sitting on the seat facing forward. For example, the throttle control is on the right-hand side. These rules are simple, but confusion can cause a major inconvenience during service.

2. Whenever servicing the engine or clutch, or when removing a suspension component, the vehicle should be secured in a safe manner and the parking brake applied.

WARNING

Never disconnect the positive (+) battery cable unless the negative (-) cable has first been disconnected. Disconnecting the positive cable while the negative cable is still connected may cause a spark. This could ignite hydrogen gas given off by the battery, causing an explosion.



3. Disconnect the negative battery cable (**Figure 3**) when working on or near the electrical, clutch, or starter systems and before disconnecting any electrical wires. On most batteries, the negative terminal will be marked with a minus (-) sign and the positive terminal with a plus (+) sign.

4. Tag all similar internal parts for location and mark all mating parts for position (**A**, **Figure 4**). Record number and thickness of any shims as they are removed. Small parts such as bolts can be identified by placing them in plastic sandwich bags (**B**, **Figure 4**). Seal and label them with masking tape.

5. Place parts from a specific area of the engine (e.g. cylinder head, cylinder, clutch, shift mechanism, etc.) into plastic boxes (**C**, **Figure 4**) to keep them separated.

6. When disassembling transmission shaft assemblies, use an egg flat (the type that restaurants get their eggs in) (**D**, **Figure 4**) and set the parts from

the shaft in one of the depressions in the same order in which they were removed.

7. Wiring should be tagged with masking tape and marked as each wire is removed. Again, do not rely on memory alone.

8. Finished surfaces should be protected from physical damage or corrosion. Keep gasoline and brake fluid off painted surfaces.

9. Use penetrating oil on frozen or tight bolts, then strike the bolt head a few times with a hammer and punch (use a screwdriver on screws). Avoid the use of heat where possible, as it can warp, melt or affect the temper of parts. Heat also ruins finishes, especially paint and plastics.

10. No parts removed or installed (other than bushings and bearings) in the procedures given in this manual should require unusual force during disassembly or assembly. If a part is difficult to remove or install, find out why before proceeding.

11. Cover all openings after removing parts or components to prevent dirt, small tools, etc. from falling in.

12. Read each procedure *completely* while looking at the actual parts before starting a job. Make sure you *thoroughly* understand what is to be done and then carefully follow the procedure, step by step.

13. Recommendations are occasionally made to refer service or maintenance to a Honda dealer or a specialist in a particular field. In these cases, the work will be done more quickly and economically than if you performed the job yourself.

14. In procedural steps, the term "replace" means to discard a defective part and replace it with a new or exchange unit. "Overhaul" means to remove, disassemble, inspect, measure, repair or replace defective parts, reassemble and install major systems or parts.

15. Some operations require the use of a hydraulic press. It would be wiser to have these operations performed by a shop equipped for such work, rather than to try to do the job yourself with makeshift equipment that may damage your machine.

16. Repairs go much faster and easier if your machine is clean before you begin work. There are many special cleaners on the market, like Bel-Ray Degreaser, for washing the engine and related parts. Follow the manufacturer's directions on the container for the best results. Clean all oily or greasy parts with cleaning solvent as you remove them. See *Washing the Vehicle* in this chapter.

WARNING

Never use gasoline as a cleaning agent. It presents an extreme fire hazard. Be sure to work in a well-ventilated area when using cleaning solvent. Keep a fire extinguisher, rated for gasoline fires, handy in any case.

CAUTION

If you use a car wash to clean your vehicle, don't direct the high pressure water hose at steering bearings, carburetor hoses, suspension linkage components, wheel bearings and electrical components. The water will flush grease out of the bearings or damage the seals.

17. Much of the labor charges for repairs made by dealers are for the time involved during in the removal, disassembly, assembly, and reinstallation of other parts in order to reach the defective part. It is frequently possible to perform the preliminary operations yourself and then take the defective unit to the dealer for repair at considerable savings.

18. If special tools are required, make arrangements to get them before you start. It is frustrating and time-consuming to get partly into a job and then be unable to complete it.

19. Make diagrams (or take a Polaroid picture) wherever similar-appearing parts are found. For instance, crankcase bolts are often not the same length. You may think you can remember where everything came from—but mistakes are costly. There is also the possibility that you may be sidetracked and not return to work for days or even weeks—in which the time carefully laid out parts may have become disturbed.

20. When assembling parts, be sure all shims and washers are replaced exactly as they came out.

21. Whenever a rotating part butts against a stationary part, look for a shim or washer. Use new gaskets if there is any doubt about the condition of the old ones. A thin coat of oil on non-pressure type gaskets may help them seal more effectively.

22. High spots may be sanded off a piston with sandpaper, but fine emery cloth and oil will do a much more professional job.

23. Carbon can be removed from the head, the piston crowns and the exhaust ports with a dull screwdriver. Do *not* scratch machined surfaces. Wipe off the surface with a clean cloth when finished.

24. A baby bottle makes a good measuring device for adding oil to the front forks. Get one that is graduated in fluid ounces and cubic centimeters. After it has been used for this purpose, do *not* let a small child drink out of it as there will always be an oil residue in it.

25. If it is necessary to make a clutch cover or ignition cover gasket and you do not have a suitable old gasket to use as a guide, you can use the outline of the cover and gasket material to make a new gasket. Apply engine oil to the cover gasket surface. Then place the cover on the new gasket material and apply pressure with your hands. The oil will leave a very accurate outline on the gasket material that can be cut around.

CAUTION

When purchasing gasket material to make a gasket, measure the thickness of the old gasket and purchase gasket material with the same approximate thickness.

26. Heavy grease can be used to hold small parts in place if they tend to fall out during assembly. How-

ever, keep grease and oil away from electrical and brake components.

27. The carburetor is best cleaned by disassembling it and soaking the parts in a commercial carburetor cleaner. Never soak gaskets and rubber parts in these cleaners. Never use wire to clean out jets and air passages. They are easily damaged. Use compressed air to blow out the carburetor only if the float has been removed first.

28. There are many items available that can be used on your hands before and after working on your vehicle. A little preparation prior to getting "all greased up" will help when cleaning up later. Before starting out, work Vaseline, soap or a product such as Invisible Glove (**Figure 5**) onto your forearms, into your hands and under your fingernails and cuticles. This will make cleanup a lot easier. For cleanup, use a waterless hand soap such as Sta-Lube and then finish up with powdered Boraxo and a fingernail brush (**Figure 6**).

WASHING THE VEHICLE

Since the Fourtrax is an off-road vehicle designed for use on construction sites, agricultural areas, etc. and if you are using it often and maintaining it properly, you will spend a lot of time cleaning it. After riding it in extremely dirty areas, wash it down thoroughly. Doing this will make maintenance and service procedures quick and easy. More important, proper cleaning will prevent dirt from falling into critical areas undetected. Failing to clean the vehicle or cleaning it incorrectly will add to your maintenance costs and shop time because dirty parts wear out prematurely. It's unthinkable that your vehicle could break because of improper cleaning, but it can happen.

When cleaning your Honda, you will need a few tools, shop rags, scrub brush, bucket, liquid cleaner and access to water. Many riders use a coin-operated car wash. Coin-operated car washes are convenient and quick, but with improper use, the high water pressures can do more damage than good to your vehicle.

NOTE

A safe biodegradable, non-toxic and non-flammable liquid cleaner that works well for washing your vehicle as well as for removing grease and oil from engine and suspension parts is Simple



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